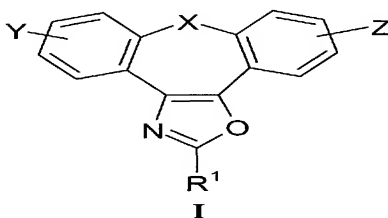


AMENDMENTS TO THE CLAIMS

1. (Currently amended) Use of the compounds of the general A method of treating a disease, damage or disorder of the central nervous system associated with a disorder of neurochemical equilibrium of a biogenic amine or other neurotransmitter, comprising administering to a subject in need thereof a compound of formula I



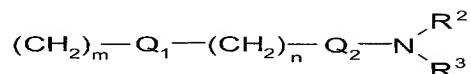
wherein

X means is O, S, S(=O), S(=O)₂, or NR^a, wherein R^a is selected from the group consisting of hydrogen, ~~or a substituent selected from the group consisting of~~ C₁-C₃-alkyl, C₁-C₃-alkanoyl, C₁-C₇-alkoxycarbonyl, C₇-C₁₀-arylalkyloxycarbonyl, C₇-C₁₀-aroyl, C₇-C₁₀-arylalkyl, C₃-C₇-alkylsilyl and C₅-C₁₀-alkylsilylalkyloxyalkyl;

Y and Z are each independently ~~from each other mean one or more identical or different substituents linked to any available carbon atom~~ selected from the group consisting of hydrogen, halogen, C₁-C₄-alkyl, C₂-C₄-alkenyl, C₂-C₄-~~alkenyl~~alkynyl, halo-C₁-C₄ alkyl, hydroxy, C₁-C₄-alkoxy, trifluoromethoxy, C₁-C₄ alkanoyl, amino, amino-C₁-C₄-alkyl, N-(C₁-C₄-alkyl)amino, N,N-di(C₁-C₄-alkyl)amino, thiol, C₁-C₄ alkylthio, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl, C₁-C₄ alkylsulfinyl, carboxy, C₁-C₄ alkoxycarbonyl, cyano and nitro;

R¹ means is hydrogen, CHO, (CH₂)₂COOH, (CH₂)₂CO₂CH₂CH₃, (CH₂)_mL, wherein ~~m has the meaning of is~~ an integer from 1 to 3 and L ~~has the meaning of is~~ OH or Br;

or a substituent ~~represented with the~~ of formula II:



II

wherein

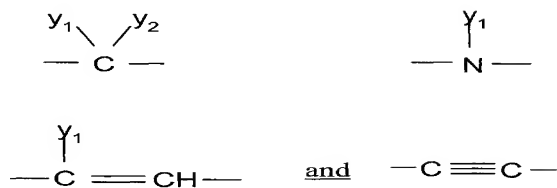
R^2 and R^3 ~~simultaneously or are each~~ independently from each other have the meaning selected from the group consisting of hydrogen, C_1 - C_4 -alkyl, and aryl having the meaning of an aromatic ring as well as fused aromatic rings containing one ring with at least 6 carbon atoms or two rings with totally 10 carbon atoms and with alternating double bonds between carbon atoms; or

R^2 and R^3 taken together with $[[\text{N}]]$ the nitrogen atom to which they are attached have the meaning of form a heterocycle or heteroaryl group that is wherein heterocycle relates to five member or six member fully saturated or partly unsaturated heterocycle group containing at least one hetero atom selected from the group consisting of O, S and N and where said heterocycle can be optionally substituted with one or two substituents which are selected from the group consisting of halogen, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, N -(C_1 - C_4) alkylamino, N,N -di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl, and C_1 - C_4 alkylsulfinyl; and wherein heteroaryl relates to aromatic and partially aromatic groups of a monocyclic or bicyclic ring with 4 to 12 carbon atoms and at least one of them being heteroatom selected from the group consisting of O, S and N and where said heteroaryl can be optionally substituted with one or two substituents which are selected from halogen, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, N -(C_1 - C_4) alkylamino, N,N -di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl and C_1 - C_4 alkylsulfinyl;

m represents is an integer from 1 to 3;

n represents is an integer from 0 to 3;

Q_1 and Q_2 are each independently from each other have the meaning of selected from the group consisting of oxygen, sulfur, or a group;



wherein substituents

y_1 and y_2 are each independently ~~from each other have the meaning selected from the group consisting of~~ hydrogen, halogen, C₁-C₄-alkyl, aryl ~~wherein aryl has the meaning as defined above,~~ hydroxy, C₁-C₄-alkyloxy, C₁-C₄ alkanoyl, thiol, C₁-C₄-alkylthio, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl, C₁-C₄ alkylsulfinyl, cyano, and nitro; or

y_1 and y_2 taken together with the carbon atom to which they are attached form a carbonyl group or an imino group,

and of their a pharmaceutically acceptable salt or solvate thereof, ~~salts and solvates for the manufacture of pharmaceutical formulations for the treatment and prevention of diseases, damages and disorders of the central nervous system caused by disorders of neurochemical equilibrium of biogenic amines or other neurotransmitters.~~

2. (Currently amended) Use according to The method of claim 1, wherein the selected biogenic amines are amine is serotonin, norepinephrine and or dopamine.

3. (Currently amended) Use according to The method of claim 1, wherein the neurotransmitter is glutamate.

4. (Currently amended) Use according to ~~claims 1, 2 or 3~~ The method of claim 1 wherein the compounds compound of the general formula I ~~aet upon the neurochemical equilibrium by regulating~~ regulates the synthesis, ~~storage, release, metabolism, storing, releasing, metabolizing and/or reabsorption or receptor binding~~ of a biogenic amine amines or neurotransmitter ~~neurotransmitters and binding to their receptors.~~

5. (Currently amended) ~~Use according to~~ The method of claim 4, wherein the compounds compound of the general formula I show binding affinity binds to a receptor of one or more a biogenic amines amine.

6. (Currently amended) ~~Use according to~~ The method of claim 5, wherein the compounds compound of the general formula I show a significant binding affinity binds to a serotonin 5-HT_{2A} and or 5-HT_{2C} receptors receptor.

7. (Currently amended) ~~Use according to~~ The method of claim 6, wherein the compounds compound of the general formula I show binding affinity to selected binds to a serotonin 5-HT_{2A} or 5-HT_{2C} receptors receptor with an in a concentration of IC₅₀<1 μ M of less than 1 μ M.

8. (Currently amended) ~~Use according to~~ The method of claim 1, wherein the compounds compound of the general formula I act as binds to a σ 1 receptor ligands in a concentration of with an IC₅₀<1 μ M of less than 1 μ M by modulating central neurotransmitter system.

9. (Currently amended) ~~Use according to claims 1, 6 or 8~~ The method of claim 1, wherein the compounds compound of the general formula I show dual binding affinity binds to a σ 1 receptor and to at least one serotonin receptor selected from 5-HT_{2A} and 5-HT_{2C}.

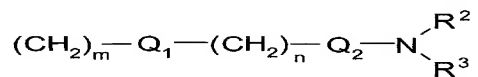
10. (Currently amended) ~~Use according to~~ The method of claim 1, wherein the diseases and disorders disease or disorder of the central nervous system are is selected from the group consisting of anxiety, depression and ~~modest depression~~, bipolar disorders, sleeping disorders, sexual disorders, psychosis, borderline psychosis, schizophrenia, migraine, personality disorders, and obsessive-compulsive disorders, social phobia, ~~or~~ panic attacks, organic mental disorders in children, aggression, memory disorders, and personality disorders in elderly people, addiction, obesity, bulimia and similar other eating disorders, snoring, and premenstrual troubles.

11. (Currently amended) ~~Use according to~~ The method of claim 1, wherein the ~~damages~~ of damage to the central nervous system ~~are is~~ caused by trauma, brain stroke, neurodegenerative diseases, cardiovascular disorders ~~such as high blood pressure~~, thrombosis, infarct ~~as well as by or~~ gastrointestinal disorders.

12. (Currently amended) ~~Use according to~~ The method of claim 1 wherein X represents is O, S, or NR^a, wherein R^a is hydrogen or a substituent selected from the group consisting of C₁-C₃-alkyl, C₁-C₃-alkanoyl, C₇-C₁₀-aryl and C₇-C₁₀-arylalkyl.

13. (Currently amended) ~~Use according to claims 1 or 12~~ The method of claim 1, wherein Y and Z are each independently from ~~each other~~ mean one or more identical or different substituents linked to any available carbon atom selected from the group consisting of hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, hydroxy, C₁-C₄-alkoxy, trifluoromethoxy, C₁-C₄-alkanoyl, amino, amino-C₁-C₄-alkyl, N-(C₁-C₄-alkyl)amino, N,N-di(C₁-C₄-alkyl)amino, thiol, C₁-C₄-alkylthio, cyano and nitro.

14. (Currently amended) ~~Use according to claims 1, 12 or 13~~ The method of claim 1, wherein R¹ ~~has the meaning of is~~ hydrogen, CHO, (CH₂)₂COOH, (CH₂)₂CO₂CH₂CH₃, (CH₂)_mL wherein m ~~represents is~~ an integer from 1 to 3 and L ~~has the meaning of is~~ OH or Br; or a substituent ~~represented with of~~ the formula II:



II

wherein

R² and R³ ~~simultaneously or are each~~ independently from ~~each other~~ have the meaning of hydrogen, C₁-C₄-alkyl, or aryl ~~wherein ary has the meaning as defined above; or~~ R² and R³ taken together with [[N]] the nitrogen atom to which they are attached have the meaning of form a heterocycle or heteroaryl group selected from the group

consisting of morpholine-4-yl, piperidine-1-yl, pyrrolidine-1-yl, imidazole-1-yl and piperazine-1-yl

m represents is an integer from 1 to 3;

n represents is an integer from 0 to 3; and

Q₁ and Q₂ are each independently from each other have the meaning of oxygen or CH₂ group.

15. (Currently amended) ~~Use according to The method of~~ claim 1, wherein the compounds compound of the general formula I, pharmaceutically acceptable salts and solvates thereof are is selected from the group consisting of:

- 1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
- 1,8-dioxa-3-aza-dibenzo[e,h]azulene;
- 3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-propionic acid ethyl ester;
- 3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-yl)-propionic acid ethyl ester;
- 2-methyl-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
- 2-methyl-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
- 11-chloro-2-methyl-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
- 5-chloro-2-methyl-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
- 11-chloro-2-methyl-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
- 5-chloro-2-methyl-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
- 1-oxa-8-thia-3-aza-dibenzo[e,h]azulene-2-carbaldehyde;
- 3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-propionic acid;
- 3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-yl)-propionic acid;
- (1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-methanol;
- 3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-propane-1-ol;
- 3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-yl)-propane-1-ol;
- 2-bromomethyl-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
- 2-bromomethyl-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
- 2-bromomethyl-5-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;

2-bromomethyl-11-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulene;
2-bromomethyl-5-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
2-bromomethyl-11-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulene;
dimethyl-[2-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-amine;
dimethyl-[3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-amine;
dimethyl-{2-[3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-propoxy]-ethyl}-amine;
dimethyl-{3-[3-(1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-yl)-propoxy]-propyl}-
amine;

{2-[3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-yl)-propoxy]-ethyl}-dimethylamine;
{3-[3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-yl)-propoxy]-propyl}-dimethylamine;
[2-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-dimethylamine;
[3-(1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-dimethylamine;
2-(5-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-
dimethylamine;
[3-(5-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-
dimethylamine;
[2-(11-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-
dimethylamine;
[3-(11-chloro-1-oxa-8-thia-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-
dimethylamine;
[2-(5-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-
dimethylamine;
[3-(5-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-
dimethylamine;
[2-(11-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-ethyl]-
dimethylamine;
~~and~~
[3-(11-chloro-1,8-dioxa-3-aza-dibenzo[e,h]azulen-2-ylmethoxy)-propyl]-
dimethylamine; and
a pharmaceutically acceptable salt or solvate thereof.